Improving the Livelihood and Well-Being of Current and Future Ranching Communities Impacted by Legacy Mining Operations in Harding County, South Dakota

Since the early 2010s, Region 8 has been addressing mine-related contamination on private lands near a cluster of abandoned uranium mines on US Forest Service Property in the northwest corner of South Dakota. The US Forest Service manages the lands containing most of these abandoned mines, but in some areas, the spoils and associated eroded materials have been transported via further erosion onto adjacent private land. Most of the private properties are ranches that support grazing activities of livestock such as cattle and sheep. Local ranchers are concerned about long-term effects of exposure to metals and uranium in livestock (from a production standpoint as well as human consumption). The Site was recently awarded funds resulting from a settlement agreement holding Kerr-McGee and related subsidiaries of Anadarko liable for fraudulently conveying assets in an attempt to evade their liabilities for cleanups at toxic sites around the country. A portion of the settlement funds awarded to the Site (up to $27M) will be used to support site-specific investigations to address ranchers' concerns related to livestock production and safety of human consumption. Colorado State University, in collaboration with South Dakota State University, South Dakota School of Mines and Technology, and Colorado School of Mines, has submitted a grant proposal to evaluate soil processes and conditions affecting metal and radionuclide transport within mining-impacted watershed, soils, and food chain receptors. The investigation will occur over an extended time period to evaluate soil chemistry, quality, and microbiology parameters; plant uptake of metals and radionuclides; hydrologic influences; livestock uptake and accumulation; and potential toxicity to livestock and humans consuming livestock products. The project includes an extensive outreach and engagement component that includes local ranchers, the community at large, local youth (e.g., 4H members), and South Dakota State University students. Results from this investigation will inform evaluation of risks to livestock and humans and support site-related risk management decision-making. It is envisioned that results of this work will also broadly inform other sites with metals contamination.

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